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ABSTRACT

This document is a report on a study of errors in spelling which high school students in 48 states, the District of Columbia, and Canada have made in their writing, with special reference to the words most frequently misspelled, their relative frequency, and the kinds of spelling errors which the student made. An analysis of the different words misspelled and the number of times each word was misspelled shows that most of the words were misspelled only rarely, while a comparatively few words were misspelled much more frequently. Five major groups of errors were noted: (1) misspelling of endings of words, (2) misspelling of vowels, (3) misspelling of homonyms or near homonyms, (4) misspelling of consonants,and (5) misspelling of prefixes and combining forms. An outline of the kinds of spelling errors made in grades 9-12 is included for reference. (CK)

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MISSPELLING IN GRADES 9-12

Thomas Clark Pollock

This is a report on a study of errors in spelling which high school students in forty-eight states, the District of Columbia, and Canada have made in their writing, with special reference to the words most frequently misspelled, their relative frequency, and the kinds of spelling errors which the students made.

The raw data for this study were collected by 1,706 teachers in 846 high schools who responded to a request I made through the medium of the *Teachers Service Bulletin in English* of the Macmillan Company to send me the next fifty misspelled words which they met in the writing of one of their high-school classes. Some of the teachers sent fifty words, some fewer; but altogether they sent me a total of well over 50,000 words misspelled in grades 9-12. I winnowed the total list by setting aside spellings of unusual names; spellings such as *judgement* and *useable* which, although not the preferred American spellings, are regarded as acceptable by some American dictionaries; and a number of other words which, although presumably misspelled as the students wrote them, were spelled correctly in the transcriptions the teachers sent me. After this winnowing, the raw data consisted of 49,259 misspelled words.

Further analysis showed that these were 49,259 misspellings of 6,556 different words and that they contained 54,173 spelling errors, 20% of the misspellings came from grade 9, 27% from grade 10, 27% from grade 11. and 26% from grade 12.

Section I which follows concerns the words most frequently misspelled and their relative frequency. Section II presents an analysis of the kinds of spelling errors the student writers made.

I

An analysis of the different words misspelled and the number of times each word was misspelled shows that most of the words were mispelled only rarely, while a comparatively few words were misspelled much more frequently. More specifically:

— 2,511 words or 38% of the total, were mispelled only once.
— 1,048 words, or 16% of the total, were misspelled only twice.
— 572 words, or 9% of the total, were misspelled only three times.
— 394 words, or 6% of the total, were misspelled only four times.
— Hence 4,525 different words, or nearly 70% of the total, were misspelled fewer than five times; and these different words account for only about 9% of the misspellings.

On the other hand:

—The 100 words which were misspelled most frequently, from 70 to 658 times each, account for 13,551 misspellings or nearly 28% of the

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total. That is, 1.5% of the different words account for nearly 28% of the misspellings.
— The 388 words which were misspelled most frequently—each one at least 25 times—account for 25,254 of the misspelled words, or 51% of the total. This is, 6% of the different words account for 51% of the misspellings.

It is evident from this as well as from other studies[1] that, whether or not it is pedagogically wise to speak of "spelling demons," a comparatively few words do account fo ra large percentage of misspellings in high school. It would seem clear that these words deserve special attention in any teaching of spelling in secondary schools.

The list of 388 words which occasioned more than half of the misspellings in grades 9-12 is given below. The letters in each word which caused most of the spelling errors are *italicized*. The words are arranged in order of decreasing frequency of misspelling. (Note that the "words" listed here include a few word-groups or elisions which frequently occasion misspellings, such as *all right*, *it's*, and *you're*, as well as words with alternate endings, such as "interest(ing)" and "descr*ip*tion (ive)."

	Times Misspelled			*Times Misspelled*
1. th*ei*r	—	658	31. to	— 131
2. t*oo*	—	578	32. tr*u*ly	— 129
3. rec*ei*ve	—	450	33. do*es*	— 128
4. th*e*re	—	314	34. stop*p*ed(ing)	— 127
5. a*ll r*ight	—	309	35. recom*m*end	— 125
6. sep*a*rate	—	307	36. emba*rr*ass	— 124
7. bel*ie*ve	—	299	37. lose	— 124
8. unti*l*	—	287	38. nec*e*ssary	— 124
9. co*m*ing	—	236	39. wo*m*an	— 123
10. w*h*ether	—	221	40. di*ff*erent(ce)	— 120
11. int*e*rest(ing)	—	219	41. prob*a*bly	— 120
12. writ*i*ng	—	218	42. th*a*n	— 115
13. tr*ie*d(s)	—	206	43. w*h*ere	— 115
14. privi*l*ege	—	200	44. *it*s	— 114
15. d*e*cide(d)	—	197	45. clo*th*es	— 113
16. fi*n*ally	—	192	46. conv*e*nient(ce)	— 109
17. begi*nn*ing	—	189	47. occ*u*rred(ing)	— 107
18. *c*haracter	—	188	48. sim*i*lar	— 107
19. sur*p*rise	—	178	49. tr*a*gedy	— 107
20. humor(ous)	—	171	50. acqua*i*nt	— 106
21. b*u*siness	—	166	51. among	— 104
22. gramm*a*r	—	161	52. exper*ie*nce	— 104
23. d*e*finite	—	158	53. ple*a*sant	— 101
24. disappoint	—	151	54. th*ou*ght	— 101
25. descr*i*ption(ive)	—	147	55. cons*c*ious	— 98
26. stud*y*ing	—	143	56. gover*n*ment	— 98
27. fr*ie*nd	—	136	57. al*w*ays	— 97
28. coll*e*ge	—	135	58. describe	— 96
29. qui*e*t	—	133	59. i*mm*ediately	— 96
30. occasion	—	132	60. r*hy*thm	— 96

1 For a summary of comparable findings in other studies, see the excellent analysis by J. Stephen "Sherwin in Chapter 2, Eggys, Egges, Eyren: The Problem of Spelling," in his **Four Problems in Teaching English: a Critique of Research**, published for the National Council of Teachers of English by International Textbook Co., Scranton Pa. 1969.

		Times Misspelled			*Times Misspelled*
61.	a*th*letic	93	121.	*au*thor	64
62.	disa*ppear*	92	122.	fo*reign*	64
63.	so*ph*omore	92	123.	*soldier*	64
64.	sincere*ly*	90	124.	*sup*pose	64
65.	*p*iece	89	125.	exaggerate	63
66.	bec*ause*	88	126.	excitement	63
67.	across	87	127.	*per*form	63
68.	a*ppear*ance	86	128.	*s*ince	63
69.	it's	86	129.	labo*ra*tory	62
70.	rest*aur*ant	86	130.	me*a*nt	62
71.	success	86	131.	*es*cape	61
72.	princi*pal*	84	132.	re*mem*ber	61
73.	t*h*en	84	133.	argument	60
74.	c*our*se	83	134.	pro*fess*ion	60
75.	pla*nn*ed(ing)	81	135.	pro*fess*or	60
76.	possess(ed, ion, ive)	81	136.	*scene*(s)	60
77.	us*ual*	81	137.	b*eau*ty	59
78.	w*hich*	81	138.	bef*ore*	59
79.	sense	80	139.	l*ibr*ary	59
80.	toge*th*er	80	140.	suspense	59
81.	criti*c*ism	79	141.	in*de*pendent(ence)	57
82.	min*ute*(s)	79	142.	pre*j*udice	57
83.	who*se*	79	143.	a*cc*ommodate	56
84.	paid	78	144.	benefit	56
85.	fas*c*inate	77	145.	n*ie*ce	56
86.	f*o*rty	76	146.	parl*ia*ment	56
87.	o*pp*ortunity	76	147.	chose(n)	55
88.	wri*t*er	76	148.	*know*	55
89.	*ac*cept	75	149.	wri*tt*en	55
90.	a*ppre*ciate(ion)	75	150.	a*nd*	54
91.	esp*ecially*	75	151.	dro*pp*ed(ing)	54
92.	recog*n*ize	75	152.	enou*gh*	54
93.	shi*n*ing	75	153.	*tw*o	54
94.	speech	75	154.	doctor	53
95.	existence	74	155.	ever*y*body (day, one, thing, where)	53
96.	d*ur*ing	72	156.	equi*p*ment	53
97.	exc*ell*ent(ce)	72	157.	mag*a*zine	53
98.	re*a*lly	72	158.	ninety(een)	52
99.	vil*l*age	72	159.	ag*ainst*	51
100.	o*pi*nion	70	160.	c*o*mmit	51
101.	accident*ally*	69	161.	Feb*r*uary	51
102.	qui*te*	69	162.	sa*f*ety(ly)	51
103.	you'*re*	69	163.	equi*pp*ed	50
104.	cert*ain*	68	164.	fo*r*earm (cast, fathers, going, head, man, most, noon, saw, see, seen, shadow, sight, tell)	50
105.	i*m*agine	68	165.	hungry	50
106.	mischievous	68	166.	je*a*lous	50
107.	re*a*lize	68	167.	marr*ia*ge	50
108.	sec*r*etary	68	168.	prison	50
109.	vill*ain*	68	169.	sentence	50
110.	cemetery	67	170.	car*ry*ing	49
111.	succeed	67	171.	*f*irst	49
112.	th*or*ough(ly)	67	172.	pr*ai*rie	49
113.	th*rough*	67	173.	descend(t)	48
114.	*wea*ther	67	174.	familiar	48
115.	*were*	67	175.	gover*n*or	48
116.	artic*le*	66	176.	la*id*	48
117.	env*iron*ment	66			
118.	lit*era*ture	66			
119.	stor*ies*	66			
120.	cap*tain*	65			

		Times Misspelled
177. par*allel*	—	48
178. poss*i*ble	—	48
179. *al*ready	—	47
180. int*elli*gent(ce)	—	47
181. l*ei*sure	—	47
182. princip*le*	—	47
183. us*ua*lly	—	47
184. *al*most	—	46
185. am*a*teur	—	46
186. dis*ea*se	—	46
187. *kn*ew	—	46
188. ch*ief*(s)	—	45
189. din*er*(ing)	—	46
190. mon*th*(s)	—	45
191. Satur*d*ay	—	45
192. th*ey*	—	45
193. ha*pp*ier (est, ly, ness)	—	44
194. proc*eed*	—	44
195. serv*a*nt	—	44
196. th*ey're*	—	44
197. a*th*lete	—	43
198. dece*i*t (ve, ved)	—	43
199. grate*ful*	—	43
200. g*ua*rd	—	43
201. occ*ur*(s)	—	43
202. w*ei*rd	—	43
203. car*ee*r	—	42
204. dec*i*sion	—	42
205. gro*up*	—	42
206. mis*s*pell	—	42
207. *no*	—	42
208. occurrence	—	42
209. o*ff*	—	42
210. pas*t*ime	—	42
211. acquire	—	41
212. *a*ffect	—	41
213. a*pp*roach	—	41
214. easily(er, est)	—	41
215. h*ei*ght	—	41
216. la*t*er	—	41
217. quan*t*ity	—	41
218. squ*i*rrel	—	41
219. su*mm*ary(ize)	—	41
220. *inc*ident	—	40
221. na*rr*ative(ion)	—	40
222. pa*r*ticula*r*	—	40
223. p*i*lot	—	40
224. s*ch*edule(s)	—	40
225. exc*i*ted(ing)	—	39
226. f*a*mily	—	39
227. re*f*erred(ing)	—	39
228. reli*g*ion(ous)	—	39
229. *we*nt	—	39
230. child*r*en	—	38
231. di*dn't*	—	38
232. *e*ffect	—	38
233. ho*p*ing	—	38
234. pas*s*ed	—	38
235. *s*eize	—	38
236. str*ai*ght	—	38
237. *a*pology	—	37
238. a*pp*ear(ed)	—	37
239. lonely	—	37
240. v*e*ry	—	37
241. Brit*a*in	—	36
242. con*sc*ience	—	36
243. i*mm*ediate	—	36
244. light*n*ing	—	36
245. peculi*ar*	—	36
246. practi*c*ally	—	36
247. ru*nn*ing	—	36
248. tro*u*ble	—	36
249. a*f*raid	—	35
250. contro*l*	—	35
251. criti*c*ize	—	35
252. fo*u*rth	—	35
253. *inn*ocent	—	35
254. pro*ph*ecy	—	35
255. repetition	—	35
256. se*a*rch	—	35
257. co*mm*ittee	—	34
258. complet*e*ly	—	34
259. co*u*rageous	—	34
260. fi*e*ld	—	34
261. hospi*t*al	—	34
262. knowl*e*dge	—	34
263. moun*t*ain	—	34
264. pronun*ci*ation	—	34
265. wo*n*der	—	34
266. wo*m*en	—	34
267. cha*ll*enge	—	33
268. cr*ie*d(s)	—	33
269. di*sc*uss(ed, ion)	—	33
270. famil*ie*s	—	33
271. fict*i*tious	—	33
272. fo*r*est	—	33
273. gra*bb*ed	—	33
274. mo*d*ern	—	33
275. prec*e*de	—	33
276. shep*h*erd	—	33
277. stre*t*ch	—	33
278. b*u*y	—	32
279. ch*oo*se	—	32
280. *cou*rteous	—	32
281. cur*i*osity	—	32
282. enem*y*	—	32
283. l*e*d	—	32
284. spon*s*or	—	32
285. swi*mm*ing	—	32
286. To*m*orrow	—	32
287. *w*reck	—	32
288. ag*ai*n	—	31
289. bi*cy*cle	—	31
290. calend*a*r	—	31
291. con*sc*ient*i*ous	—	31
292. extre*m*ely	—	31
293. g*ua*rantee	—	31
294. ident*i*fy(ty)	—	31
295. l*oo*se(n, r)	—	31
296. m*a*ny	—	31

		Times Misspelled				*Times Misspelled*
297.	ma*y*be	—	31	343.	stre*ngth*en	—	27
298.	*our*	—	31	344.	themsel*ve*s	—	27
299.	rel*ie*f(ve)	—	31	345.	won*derful*	—	27
300.	*sergea*nt	—	31	346.	a*cc*use(d)	—	26
301.	so*me*thing	—	31	347.	ach*ie*ve	—	26
302.	bri*lliant*(ce)	—	30	348.	a*r*ctic	—	26
303.	Christ*ian*	—	30	349.	a*ss*ociate	—	26
304.	defin*i*tely	—	30	350.	c*o*ncentrate	—	26
305.	*etc.*	—	30	351.	dissatisfy	—	26
306.	f*r*ont	—	30	352.	*e*nterta*i*n	—	26
307.	h*ear*	—	30	353.	exper*i*ment	—	26
308.	med*icine*(s)	—	30	354.	h*o*rse	—	26
309.	noti*c*eable	—	30	355.	ni*ght*	—	26
310.	proc*e*dure	—	30	356.	o*mitt*ed	—	26
311.	r*e*ference	—	30	357.	persuade	—	26
312.	stud*ie*d(s)	—	30	358.	ph*y*sical	—	26
313.	tho*se*	—	30	359.	prep*a*ration	—	26
314.	b*eautiful*	—	29	360.	*psy*chology(ical, ist)	—	26
315.	comp*lete*	—	29	361.	sec*ret*	—	26
316.	countr*ies*	—	29	362.	*w*ait	—	26
317.	favor*ite*	—	29	363.	a*dd*ress	—	26
318.	furth*er*	—	29	364.	aggression (ive, or)	—	25
319.	g*ett*ing	—	29	365.	attend*a*nt (ce)	—	25
320.	hero*es*	—	29	366.	a*tt*itude	—	25
321.	rec*eipt*	—	29	367.	contin*ue*(ous)	—	25
322.	spe*ak*	—	29	368.	d*e*stroy	—	25
323.	stepped(ing)	—	29	369.	d*iff*icult	—	25
324.	thin*k*	—	29	370.	form*erly*	—	25
325.	around	—	28	371.	hurr*y*ing	—	25
326.	a*wful*	—	28	372.	i*mm*ensely	—	25
327.	clim*b*(ed, ing)	—	28	373.	mini*a*ture	—	25
328.	d*i*scipline	—	28	374.	mod*el*	—	25
329.	H*e*nry	—	28	375.	n*eigh*bor	—	25
330.	inst*ead*	—	28	376.	nerv*ous*	—	25
331.	interp*re*t	—	28	377.	*n*ow	—	25
332.	o*pp*osite	—	28	378.	obs*t*acle	—	25
333.	*pamph*let	—	28	379.	o*t*her	—	25
334.	p*oi*son	—	28	380.	p*a*rents	—	25
335.	p*r*etty	—	28	381.	per*i*od	—	25
336.	ans*wer*	—	27	382.	perm*a*nent	—	25
337.	br*eak*	—	27	383.	po*e*m(s)	—	25
338.	co*r*ner	—	27	384.	p*u*rsue(it)	—	25
339.	h*a*ppen	—	27	385.	suspi*c*ion	—	25
340.	inter*r*upt	—	27	386.	temper*a*ment	—	25
341.	mo*t*or	—	27	387.	th*ief*	—	25
342.	rel*a*tive	—	27	388.	*w*rite	—	25

II

In addition to finding what different words were misspelled by students in grades 9-12 and the frequency of the misspellings of different words, the study analyzed the misspellings to find the kinds of spelling errors which the students had made in their writing and the frequency of different kinds of errors.

54,173 spellings errors were found in the 49,259 misspellings of 6,556 different words. Note that the number of spelling errors is higher than the number of misspellings. The reason, is, of course. that

one misspelled word may include two or more spelling errors. For example, the word *immediately* was misspelled "imedeat ly" by one student—three spelling errors in one misspelled word.

The largest group of spelling errors, 21,029 or 38.8% of the total, was made in the endings of words. This group of errors can be classified into three sub-groups.

—(1) 4,438 or 8.2% of the errors were made in the spelling of a suffix. For example, one student wrote the suffix *-ance* in *appearance* as "appearence."

—(2) 8,295 or 15.3% of the errors were made. not in the spelling of the suffix itself, but in adding the suffix to the base word or root. For example, one student, in adding the suffix *-ly* to *true,* wrote "true-ly." Frequently this error consisted in incorrectly doubling or not doubling a consonant before a suffix, as in "com*m*ing." sto*p*ed," and writ*t*ing."

—(3) 8,296 or 15.3% of the errors were made in the spelling of a word-ending in which no suffix was involved. Examples are the misspellings "grammer" for *grammar,* "artic*a*l" for *article,* and "simili*a*r" for *similar.*

The second largest group of errors, 10,742 or 20%, was made in the misspelling of vowels, that is vowel sounds plus the number 10,742, is in addition to any misspellings of vowels which were incidental to the misspellings of suffixes, prefixes. combining forms, homonyms, and near homonyms. This group of errors also can be classified into three sub-groups.

—(1) 2,653 or 5% of the errors were made in the spelling of standard two-letter vowel graphemes, such as *ai* and *ea.* Examples are "afr*i*ad" for *afraid,* "j*e*lous" for *jealous,* and "speach" for *speech.*

—(2) Confusion between *ei* and *ie* led to 2,023 or 4% of the errors. as in "bel*ei*ve" for *believe,* "rec*ie*ve" for *receive,* and "th*ei*f" for *thief.* It may be worth noting that an unusually large proportion of these *ie-ei* errors (77% of the total) came in the 388 words which were misspelled 25 times or more.

—(3) An additional 6,066 or 11% of the errors arose from more varied difficulties with the spelling of vowels, as in "sep*e*rate" for *separate,* "p*i*olet for *pilot,* and mag*i*zine" for *magazine.*

The third largest group of errors, 7,331 or 13.5%, was made in the misspelling of homonyms or near homonyms, such as *to-too-two* and *weather-whether.*

The fourth largest group of errors, 6,503 or 12%, came in the misspelling of consonants. These errors may be classified into four sub-groups.

—(1) 1,096 or 2% came in the misspelling of two-letter consonant graphemes, such as *gh* and *sc.* Examples are "enou*gh*t" for *enough,* "con*c*ious" for *conscious,* and "pro*f*ecy" for *prophecy.*

—(2) 1,761 or 3.3% came from problems of doubling or not doubling consonants, as in "embarass" for *embarrass,* and "posess" for *possess.*

—(3) 819 or 1.5% of the errors came from the omission of a silent letter, as in "cli*m*ed" for *climbed*, "mor*g*age" for *mortgage*, and "*r*ythm" for *rhythm*.

—(4) 2,827 or 5.2% were other kinds of errors in spelling individual consonant sounds. Examples are "deside" for *decide* and "tra*d*gedy" for *tragedy*. A number of these errors, such as "ine*n*ity" for *indentity*, "li*b*ary" for *library*, and reco*n*ize", for *recognize* are presumably related to mistaken pronunciation or hearing of the word.

The fifth largest group of errors, 5,024 or 9%, came from the misspelling of prefixes and combining forms, as in "bib*l*ography" for *bibliography*, "discribe" for *describe*, and "preform" for *perform*.

In addition to the five major groups of errors indicated above, there was a miscellany of 3,544 or 6.5% of the errors which did not fall into any of these groups. Examples of these, many of which consist of the omission of syllables, are "opion" for *opinion*, "peroid" for *period*, and "rember" for *remember*.

The classifications above are not, of course, logically mutually exclusive. The spelling of suffixes or homonyms, for example, inevitably involves the spelling of vowels and consonants. The classifications have been made, however, in the effort to reflect what apparently were the general sources of the spelling errors. For example, "recieve" for *receive* was classified with the *ei-ie* errors, for obvious reasons; but "there" for *their* was classified with the homonym errors; and errors made in spelling *stories* were classified with the errors made in attaching a suffix to a base (*story - stories*). In doubtful cases, a careful examination of the actual misspellings of the word usually gave the clue. The misspellings of *receive*, for example. tended to be "recieve"; but the misspellings of *stories* tended to be, not "store*i*s," but "story*s*" or " "story*'s*."

The following outline of the kinds of spelling errors made in grades 9-12 may be useful for reference.

		Number	Per cent
	Kinds of Spelling Errors in Grades 9-12		
I.	*Endings of Words*		
	Errors in *spelling* suffix	4,438	8.2%
	Errors in *adding* suffix	8,295	15.3%
	Errors in non-suffix endings	8,296	15.5%
	Sub-Total	21,029	38.8%
II.	*Vowel Sounds*		
	Errors in two-letter graphemes (*ai-ea*, etc.)	2,653	5 %
	ie-ei errors	2,023	4 %
	Other errors in spelling vowels	6,065	11 %
	Sub-Total	10,742	20 %
III.	*Homonyms and Near Homonyms*	7,331	13.5%

IV.	*Consonant Sounds*		
	Errors in two-letter graphemes (*gh. sc, etc.*)	1,096	2 %
	Errors in doubling or not doubling letters	1,761	3.3%
	Errors in silent letters	819	1.5%
	Other errors in spelling consonants	2,827	5.2%
	Sub-Total	6,503	12 %
V.	*Prefixes and Combining Forms*	5,024	9 %
VI.	*Miscellany*	3,544	6.5%
	Total	54,173	99.8%

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